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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,185	03/24/2004	John C. Lallier	34826-1017	4569

41881 7590 05/01/2007

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EXAMINER	
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ART UNIT	PAPER NUMBER
2168	

MAIL DATE	DELIVERY MODE
05/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,185	LALLIER, JOHN C.	
	Examiner	Art Unit	
	Mahesh H. Dwivedi	2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/14/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

1. Receipt of Applicant's Amendment, filed on 03/15/06, is acknowledged. The amendment includes amending claims 34-35, 43-44, 52, and 60, and the addition of claims 67-80.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 09/14/2004 has been received, entered into the record, and considered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Specifically, the examiner points to claim 71 which states "disconnecting the source storage system from the host" and "establishing a second connection between the target storage system and the host".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-10, 19-43, and 52-68, 70-73, 75-77, and 79-80 are rejected under 35 U.S.C. 102(e) as being anticipated by **Prahlad et al.** (U.S. PGPUB 2006/0010154).

6. Regarding claim 1, **Prahlad** teaches a method comprising:

A) receiving from a host a data processing request specifying a data file (Paragraphs 17 and 48-49, Figure 3);
B) examining a stub file stored on the target storage device that corresponds to the specified data file (Paragraphs 20-21, and 49, Figure 4);
C) wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file (Paragraphs 14, 20-21, and 49, Figure 4); and
D) copying the source data file from the source storage device to the target storage device (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"receiving from a host a data processing request specifying a data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"examining a stub file stored on the target storage device that corresponds to the specified data file"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"copying the source data file from the source storage device to the target storage device"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored

to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 2, **Prahlad** further teaches a method comprising:

A) retrieving requested data from the copied data file (Paragraphs 20-21, 35, and 49, Figure 4); and

B) providing the requested data to the host (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"retrieving requested data from the copied data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"providing the requested data to the host"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 3, **Prahlad** further teaches a method comprising:

A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 4, **Prahlad** further teaches a method comprising:

A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location" (Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 5, **Prahlad** further teaches a method comprising:

A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 6, **Prahlad** further teaches a method comprising:

A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 7, **Prahlad** further teaches a method comprising:

A) wherein the data processing request is received from the host via a network (Paragraphs 17 and 48, Figure 3).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48).

Regarding claim 8, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 9, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 10, **Prahlad** further teaches a method comprising:

A) replacing the stub file with the copied data file (Paragraph 35).

The examiner notes that **Prahlad** teaches **"replacing the stub file with the copied data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35). The examiner further notes that it is common knowledge that de-migration results in

transferred files being restored to primary systems and replacing the stub files that pointed to their temporary storage location.

Regarding claim 19, **Prahlad** teaches a method comprising:

A) receiving from a host a data processing request specifying a data file (Paragraphs 17 and 48-49, Figure 3);

B) examining a stub file stored on the target storage device that corresponds to the specified data file (Paragraphs 20-21, and 49, Figure 4);

C) wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file (Paragraphs 14, 20-21, and 49, Figure 4);

D) retrieving requested data from the source data file (Paragraphs 20-21, 35, and 49, Figure 4); and

E) providing the requested data to the host (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"receiving from a host a data processing request specifying a data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"examining a stub file stored on the target storage device that corresponds to the specified data file"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the

stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"retrieving requested data from the source data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"providing the requested data to the host"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 20, **Prahlad** further teaches a method comprising:
A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 21, **Prahlad** further teaches a method comprising:
A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location" (Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 22, **Prahlad** further teaches a method comprising:
A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 23, **Prahlad** further teaches a method comprising:
A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 24, **Prahlad** further teaches a method comprising:
A) wherein the data processing request is received from the host via a network (Paragraphs 17 and 48, Figure 3).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48).

Regarding claim 25, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 26, **Prahlad** further teaches a method comprising:
A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 27, **Prahlad** teaches a method comprising:
A) accessing a target file stored on the target storage device (Paragraphs 17 and 48-49, Figure 3);
B) wherein the target file is a stub file that contains a pointer identifying a source data file stored on the source storage device (Paragraphs 14, 20-21, and 49, Figure 4); and
C) copying the identified source data file to the target storage device (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"accessing a target file stored on the target storage device"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"wherein the target file is a stub file that contains a pointer identifying a source**

data file stored on the source storage device" as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"copying the identified source data file to the target storage device"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 28, **Prahlad** further teaches a method comprising:
A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 29, **Prahlad** further teaches a method comprising:
A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location" (Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 30, **Prahlad** further teaches a method comprising:

A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 31, **Prahlad** further teaches a method comprising:

A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 32, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 33, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 34, **Prahlad** teaches a system comprising:

A) an interface configured to receive from a host a data processing request specifying a data file (Paragraphs 17 and 48-49, Figure 3); and

B) a processor configured to examine a stub file stored on the target storage device that corresponds to the specified data file (Paragraphs 20-21, and 49, Figure 4);

C) wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file (Paragraphs 14, 20-21, and 49, Figure 4); and

D) copy the source data file from the source storage device to the target storage device (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"an interface configured to receive from a host a data processing request specifying a data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"a processor configured to examine a stub file stored on the target storage device that corresponds to the specified data file"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"wherein the stub file contains a**

pointer identifying a source data file stored on the source storage device that corresponds to the specified data file" as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"copy the source data file from the source storage device to the target storage device"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 35, **Prahlad** further teaches a system comprising:

A) wherein the processor is further configured to: retrieve requested data from the copied data file (Paragraphs 20-21, 35, and 49, Figure 4); and

B) provides the requested data to the host (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"wherein the processor is further configured to: retrieve requested data from the copied data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"provides the requested data to the host"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 36, **Prahlad** further teaches a system comprising:
A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 37, **Prahlad** further teaches a system comprising:
A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location" (Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 38, **Prahlad** further teaches a system comprising:
A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 39, **Prahlad** further teaches a system comprising:
A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 40, **Prahlad** further teaches a system comprising:
A) wherein the data processing request is received from the host via a network (Paragraphs 17 and 48, Figure 3).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48).

Regarding claim 41, **Prahlad** further teaches a system comprising:
A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 42, **Prahlad** further teaches a system comprising:
A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub

file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 43, **Prahlad** further teaches a system comprising:
A) wherein the processor is further configured to: replace the stub file with the copied data file (Paragraph 35).

The examiner notes that **Prahlad** teaches **"wherein the processor is further configured to: replace the stub file with the copied data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35). The examiner further notes that it is common knowledge that de-migration results in transferred files being restored to primary systems and replacing the stub files that pointed to their temporary storage location.

Regarding claim 52, **Prahlad** teaches a system comprising:
A) an interface configured to: receive from a host a data processing request specifying a data file (Paragraphs 17 and 48-49, Figure 3); and
B) a processor configured to: examine a stub file stored on the target storage device that corresponds to the specified data file (Paragraphs 20-21, and 49, Figure 4);
C) wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file (Paragraphs 14, 20-21, and 49, Figure 4);
D) retrieve requested data from the source data file (Paragraphs 20-21, 35, and 49, Figure 4); and
E) provide the requested data to the host (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"an interface configured to: receive from a host a data processing request specifying a data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read

request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"a processor configured to: examine a stub file stored on the target storage device that corresponds to the specified data file"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"retrieve requested data from the source data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"provide the requested data to the host"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 53, **Prahlad** further teaches a system comprising:

A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 54, **Prahlad** further teaches a system comprising:
A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location" (Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 55, **Prahlad** further teaches a system comprising:
A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 56, **Prahlad** further teaches a system comprising:
A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for

electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 57, **Prahlad** further teaches a system comprising:
A) wherein the data processing request is received from the host via a network (Paragraphs 17 and 48, Figure 3).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48).

Regarding claim 58, **Prahlad** further teaches a system comprising:
A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 59, **Prahlad** further teaches a system comprising:
A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 60, **Prahlad** teaches a method comprising:

A) a processor configured to: access a target file stored on the target storage device (Paragraphs 17 and 48-49, Figure 3);

B) wherein the target file is a stub file that contains a pointer identifying a source data file stored on the source storage device (Prahlad, 14, Paragraphs 20-21, and 49, Figure 4); and

C) copy the identified source data file to the target storage device (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"a processor configured to: access a target file stored on the target storage device"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"wherein the target file is a stub file that contains a pointer identifying a source data file stored on the source storage device"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"copy the identified source data file to the target storage device"** as "De-migration as used herein generally refers to data retrieval-type operations and may...is otherwise restored to the first location" (Paragraph 35) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49).

Regarding claim 61, **Prahlad** further teaches a method comprising:

A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 62, **Prahlad** further teaches a method comprising:
A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location" (Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 63, **Prahlad** further teaches a method comprising:
A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 64, **Prahlad** further teaches a method comprising:
A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for

electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 65, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 66, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 67, **Prahlad** teaches a method comprising:

A) storing, in a target storage system, a stub file comprising information identifying a location of a source data file stored in a source storage system (Paragraphs 20-21, and 49, Figure 4);

B) receiving from a host a data processing request specifying the stub file (Paragraphs 17 and 48-49, Figure 3);

C) examining the information in the stub file, in response to the request (Paragraphs 20-21, and 49, Figure 4);

D) accessing the source data file based on the information (Paragraphs 20-21, 35, and 49, Figure 4); and

E) copying the accessed source data file from the source storage system to the target storage system (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"storing, in a target storage system, a stub file comprising information identifying a location of a source data file stored in a source storage system"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"receiving from a host a data processing request specifying the stub file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"examining the information in the stub file, in response to the request"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"accessing the source data file based on the information"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a

tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35). The examiner further notes that **Prahlad** teaches **"copying the accessed source data file from the source storage system to the target storage system"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35).

Regarding claim 68, **Prahlad** further teaches a method comprising:
A) retrieving requested data from the copy of the accessed source data file (Paragraphs 20-21, 35, and 49, Figure 4); and
B) providing the requested data to the host, in response to the data processing request (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"retrieving requested data from the copy of the accessed source data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35). The examiner further notes that **Prahlad** teaches **"providing the requested data to the host, in response to the data processing**

request" as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35).

Regarding claim 70, **Prahlad** further teaches a method comprising:
A) generating in the target storage system a target file directory corresponding to a source file directory stored in the source storage system (Paragraphs 33 and 48).

The examiner notes that **Prahlad** teaches **"generating in the target storage system a target file directory corresponding to a source file directory stored in the source storage system"** as "A storage policy (or criteria) is generally a data structure or other information that includes a set of preferences and other storage criteria for performing a storage operation. The preferences and storage criteria may include, but are not limited to: a storage location, relationships between system components, network pathway(s) to utilize, retention policies, data characteristics, compression or encryption requirements, preferred system components to utilize in a storage operation, and other criteria relating to a storage operation. A storage policy may be stored to a storage manager index, to archive media as metadata for use in restore operations or other storage operations, or to other locations or components of the system" (Paragraph 33) and "Referring now to FIG. 3, some of the steps involved in practicing an embodiment of the present invention are shown in the flow chart illustrated thereon. When a network device sends a write request for writing a data to the NAS device, the write request may include a folder, directory or other location in which to store the data on the NAS device (step 300). Through a network, the network device

may write the data to the NAS device, storing the file in primary storage (and/or NAS) in the location specified in the write request (step 302). As shown, after a data migrator copies data to secondary storage (step 304) the data migrator may store a stub file at the original file location, the stub file having a pointer pointing to the location in secondary storage where the actual file was stored, and to which the network device can be redirected if a read request for the file is received from the network device, step 306" (Paragraph 48).

Regarding claim 71, **Prahlad** further teaches a method comprising:
A) receiving from the host, by the source storage system, via a first communication connection between the source storage system and the host, a first data processing request specifying the source data file (Paragraphs 17, 20-21, 35, and 48-49, Figure 4);
B) disconnecting the source storage system form the host (Paragraphs 38, Figure 2);
C) establishing a second communication connection between the target storage system and the host (Paragraph 38, Figure 2); and
D) receiving from the host, by the target storage system, via the second communication connection, a second data processing request (Paragraphs 17, 20-21, 35, and 48-49, Figure 4).

The examiner notes that **Prahlad** teaches **"receiving from the host, by the source storage system, via a first communication connection between the source storage system and the host, a first data processing request specifying the source data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"disconnecting the source storage system form the host"** as "In some embodiments, data migrators 95 may generally communicate with the secondary storage devices 120 and 130 via a local bus such as a SCSI adaptor or an HBA (host bus adaptor). In some embodiments, secondary storage devices 120 and 130 may be communicatively coupled to the NAS device 100 or data migrators 95 via a storage area

network (SAN) 70" (Paragraph 38). The examiner further notes that **Prahlad** teaches **"establishing a second communication connection between the target storage system and the host"** as "In some embodiments, data migrators 95 may generally communicate with the secondary storage devices 120 and 130 via a local bus such as a SCSI adaptor or an HBA (host bus adaptor). In some embodiments, secondary storage devices 120 and 130 may be communicatively coupled to the NAS device 100 or data migrators 95 via a storage area network (SAN) 70" (Paragraph 38). The examiner further notes that **Prahlad** teaches **"access the source data file based on the information"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35). The examiner further notes that **Prahlad** teaches **"receiving from the host, by the target storage system, via the second communication connection, a second data processing request"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48).

Regarding claim 72, **Prahlad** teaches a system comprising:

A) one or more storage systems configured to: store, in a target storage system, a target data file that corresponds to a source data file stored in a source storage system (Paragraphs 20-21, and 49, Figure 4);

B) at least one interface configured to: receive from a host a data processing request specifying the target data file (Paragraphs 17 and 48-49, Figure 3);

C) at least one processor configured to: examine information in the target data file identifying the corresponding source data file, in response to the request (Paragraphs 20-21, and 49, Figure 4);
D) access the source data file based on the information (Paragraphs 20-21, 35, and 49, Figure 4); and
E) copy the accessed source data file from the source storage system to the target storage system (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"one or more storage systems configured to: store, in a target storage system, a target data file that corresponds to a source data file stored in a source storage system"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"at least one interface configured to: receive from a host a data processing request specifying the target data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"at least one processor configured to: examine information in the target data file identifying the corresponding source data file, in response to the request"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"access the source data file based on the information"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise

restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35). The examiner further notes that **Prahlad** teaches **"copy the accessed source data file from the source storage system to the target storage system"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35).

Regarding claim 73, **Prahlad** further teaches a system comprising:
A) wherein the processor is further configured to: retrieve requested data from the copy of the accessed source data file (Paragraphs 20-21, 35, and 49, Figure 4); and
B) provide the requested data to the host, in response to the data processing request (Paragraphs 20-21, 35, and 49, Figure 4).

The examiner notes that **Prahlad** teaches **"wherein the processor is further configured to: retrieve requested data from the copy of the accessed source data file"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage

and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35). The examiner further notes that **Prahlad** teaches "provide the requested data to the host, in response to the data processing request" as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID" (Paragraph 35).

Regarding claim 75, **Prahlad** further teaches a system comprising:
A) wherein the at least one processor comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the at least one processor comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 76, **Prahlad** further teaches a system comprising:
A) copying data files from the source file device to the target file device, when sufficient processing resources are available (Paragraph 33).

The examiner notes that **Prahlad** teaches **"copying data files from the source file device to the target file device, when sufficient processing resources are available"** as "A storage policy (or criteria) is generally a data structure or other information that includes a set of preferences and other storage criteria for performing a storage operation. The preferences and storage criteria may include, but are not limited to: a storage location, relationships between system components, network pathway(s) to utilize, retention policies, data characteristics, compression or encryption requirements, preferred system components to utilize in a storage operation, and other criteria relating to a storage operation. A storage policy may be stored to a storage manager index, to archive media as metadata for use in restore operations or other storage operations, or to other locations or components of the system" (Paragraph 33).

Regarding claim 77, **Prahlad** teaches a method comprising:

A) creating the target file volume on the target storage device (Paragraph 34);

B) copying information concerning rights of users to access the source file volume from the source file volume to the target file volume (Paragraph 33);

C) generating in the target storage device a target file directory corresponding to a source file directory stored in the source storage device (Paragraphs 33 and 48).

The examiner notes that **Prahlad** teaches **"creating the target file volume on the target storage device"** as "Storage operations, which may generally include data migration and archiving operations may involve some or all of the following operations, but are not limited thereto, including creation, storage, retrieval, migration, deletion, and tracking of primary or production volume data, secondary volume data, primary copies, secondary copies, auxiliary copies, snapshot copies, backup copies, incremental copies, differential copies, synthetic copies, HSM copies, archive copies, Information Lifecycle Management ("ILM") copies, and other types of copies and versions of electronic data" (Paragraph 34). The examiner further notes that **Prahlad** teaches **"copying information concerning rights of users to access the source file volume from the source file volume to the target file volume"** as "A storage policy (or criteria) is generally a data structure or other information that includes a set of

preferences and other storage criteria for performing a storage operation. The preferences and storage criteria may include, but are not limited to: a storage location, relationships between system components, network pathway(s) to utilize, retention policies, data characteristics, compression or encryption requirements, preferred system components to utilize in a storage operation, and other criteria relating to a storage operation. A storage policy may be stored to a storage manager index, to archive media as metadata for use in restore operations or other storage operations, or to other locations or components of the system" (Paragraph 33). The examiner further notes that **Prahlad** teaches **"generating in the target storage system a target file directory corresponding to a source file directory stored in the source storage system"** as "A storage policy (or criteria) is generally a data structure or other information that includes a set of preferences and other storage criteria for performing a storage operation. The preferences and storage criteria may include, but are not limited to: a storage location, relationships between system components, network pathway(s) to utilize, retention policies, data characteristics, compression or encryption requirements, preferred system components to utilize in a storage operation, and other criteria relating to a storage operation. A storage policy may be stored to a storage manager index, to archive media as metadata for use in restore operations or other storage operations, or to other locations or components of the system" (Paragraph 33) and "Referring now to FIG. 3, some of the steps involved in practicing an embodiment of the present invention are shown in the flow chart illustrated thereon. When a network device sends a write request for writing a data to the NAS device, the write request may include a folder, directory or other location in which to store the data on the NAS device (step 300). Through a network, the network device may write the data to the NAS device, storing the file in primary storage (and/or NAS) in the location specified in the write request (step 302). As shown, after a data migrator copies data to secondary storage (step 304) the data migrator may store a stub file at the original file location, the stub file having a pointer pointing to the location in secondary storage where the actual file was stored, and to which the network device can be redirected if a read request for the file is received from the network device, step 306" (Paragraph 48).

Regarding claim 79, **Prahlad** further teaches a method comprising:

A) copying the source data file from the source storage device to the target storage device (Paragraph 35).

The examiner notes that **Prahlad** teaches **"copying the source data file from the source storage device to the target storage device"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID, etc" (Paragraph 35).

Regarding claim 80, **Prahlad** further teaches a method comprising:

A) storing, on the target storage device, the stub file comprising a pointer identifying the source data file, prior to copying the source data file from the source storage device to the target storage device (Paragraphs 14, 20-21, and 49).

The examiner notes that **Prahlad** teaches **"storing, on the target storage device, the stub file comprising a pointer identifying the source data file, prior to copying the source data file from the source storage device to the target storage device"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14) and "reading a pointer stored in the stub file" (Paragraph 21).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 11-18 and 44-51, 69, 74, and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Prahlad et al.** (U.S. PGPUB 2006/0010154) as applied to claims 1-10, 19-43, and 52-68, 70-73, 75-77, and 79-80 in view of **Cabrera et al.** (U.S. Patent 6,981,005).

9. Regarding claim 11, **Prahlad** teaches a method comprising:

A) receiving from a host a data processing request specifying a data file (Paragraphs 17 and 48-49, Figure 3);

B) examining a stub file stored on the target storage device that corresponds to the specified data file (Paragraphs 20-21, and 49, Figure 4);

C) wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file (Paragraphs 14, 20-21, and 49, Figure 4);

D) determining a size of the source data file (Paragraphs 32 and 37)

The examiner notes that **Prahlad** teaches **"receiving from a host a data processing request specifying a data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"examining a stub file stored on the target storage device that corresponds to the specified data file"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data**

file" as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"determining a size of the source data file"** as "Data migratory 95 may be responsible for storing electronic data...based on a set of criteria specified by a system user (e.g., storage policy, file size, age, type, etc.)" (Paragraph 32).

Prahlad does not explicitly teach:

E) copying the source data file from the source storage device to the target storage device, if the size of the source data file does not exceed a predetermined limit.

Cabrera, however, teaches **"copying the source data file from the source storage device to the target storage device, if the size of the source data file does not exceed a predetermined limit"** as "The present invention also includes the ability to provide on-disk file memory allocation limits to limit the size of a file/stream. The present invention supports migration for such a constraint...the present invention is a mechanism for enforcing the storage allocation limit" (Column 10, lines 30-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Cabrera's** would have allowed **Prahlad's** to provide a method for preventing lingering inefficiency associated systems that are not equipped to handle different types of storage and data transfer operations with maximum efficiency, as noted by **Cabrera** (Column 2, lines 22-35).

Regarding claim 12, **Prahlad** further teaches a method comprising:

A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a

second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 13, **Prahlad** further teaches a method comprising:
A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location" (Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 14, **Prahlad** further teaches a method comprising:
A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 15, **Prahlad** further teaches a method comprising:
A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 16, **Prahlad** further teaches a method comprising:

A) wherein the data processing request is received from the host via a network (Paragraphs 17 and 48, Figure 3).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48).

Regarding claim 17, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a logical location of the source data file in the source file volume"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 18, **Prahlad** further teaches a method comprising:

A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 44, **Prahlad** teaches a system comprising:

A) an interface configured to: receive from a host a data processing request specifying a data file (Paragraphs 17 and 48-49, Figure 3); and
B) a processor configured to examine a stub file stored on the target storage device that corresponds to the specified data file (Paragraphs 20-21, and 49, Figure 4);
C) wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file (Paragraphs 14, 20-21, and 49, Figure 4);
D) determine a size of the source data file (Paragraphs 32 and 37).

The examiner notes that **Prahlad** teaches **"an interface configured to: receive from a host a data processing request specifying a data file"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph 17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48). The examiner further notes that **Prahlad** teaches **"a processor configured to examine a stub file stored on the target storage device that corresponds to the specified data file"** as "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"wherein the stub file contains a pointer identifying a source data file stored on the source storage device that corresponds to the specified data file"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further notes that **Prahlad** teaches **"determine a size of the source data file"** as "Data migratory 95 may be responsible for storing electronic data...based on a set of criteria specified by a system user (e.g., storage policy, file size, age, type, etc.)" (Paragraph 32).

Prahlad does not explicitly teach:

E) copy the source data file from the source storage device to the target storage device, if the size of the source data file does not exceed a predetermined limit.

Cabrera, however, teaches **"copy the source data file from the source storage device to the target storage device, if the size of the source data file does not exceed a predetermined limit"** as "The present invention also includes the ability to provide on-disk file memory allocation limits to limit the size of a file/stream. The present invention supports migration for such a constraint...the present invention is a mechanism for enforcing the storage allocation limit" (Column 10, lines 30-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Cabrera's** would have allowed **Prahlad's** to provide a method for preventing lingering inefficiency associated systems that are not equipped to handle different types of storage and data transfer operations with maximum efficiency, as noted by **Cabrera** (Column 2, lines 22-35).

Regarding claim 45, **Prahlad** further teaches a system comprising:

A) wherein the source data file is stored in a file volume on the source storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the source data file is stored in a file volume on the source storage device"** as "storing the data to a second location" (Paragraph 20) and "the pointer pointing to the second location; and reading the data from the second location" (Paragraph 21).

Regarding claim 46, **Prahlad** further teaches a system comprising:

A) wherein the stub file is stored in a file volume on the target storage device (Paragraphs 20-21).

The examiner notes that **Prahlad** teaches **"wherein the stub file is stored in a file volume on the target storage device"** as "storing a stub file at the first location"

(Paragraph 20) and "opening the stub file in place...to a second location by the network attached storage system" (Paragraph 21).

Regarding claim 47, **Prahlad** further teaches a system comprising:
A) wherein the target storage device comprises a NAS filer (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a NAS filer"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 48, **Prahlad** further teaches a system comprising:
A) wherein the target storage device comprises a file server (Paragraphs 12 and 19, Figure 2).

The examiner notes that **Prahlad** teaches **"wherein the target storage device comprises a file server"** as "A NAS device may include a specialize file server or network attached storage system" (Paragraph 12) and "The present invention provides, among other things, systems and methods for performing storage operations for electronic data in a computer network on a network attached storage device (NAS)" (Paragraph 17).

Regarding claim 49, **Prahlad** further teaches a system comprising:
A) wherein the data processing request is received from the host via a network (Paragraphs 17 and 48, Figure 3).

The examiner notes that **Prahlad** teaches **"wherein the data processing request is received from the host via a network"** as "In some embodiments, when the NAS device receives an electronic data request from a network device" (Paragraph

17) and "to which the network device can be redirected if a read request for the file is received from the network device" (Paragraph 48).

Regarding claim 50, **Prahlad** further teaches a system comprising:
A) wherein the pointer identifies a logical location of the source data file in the source file volume (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a logical location of the source data file in the source file volume"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 51, **Prahlad** further teaches a system comprising:
A) wherein the pointer identifies a physical location of the source data file on the source storage system (Paragraphs 14 and 21).

The examiner notes that **Prahlad** teaches **"wherein the pointer identifies a physical location of the source data file on the source storage system"** as "A stub file may contain some basic information to identify the file itself and also include information indicating the location of the data on the secondary storage device" (Paragraph 14), "reading a pointer stored in the stub file" (Paragraph 21).

Regarding claim 69, **Prahlad** does not explicitly teach a method comprising:
A) copying the accessed source data file from the source storage system to the target storage system, only if the size of the accessed source data file does not exceed a predetermined limit.

Cabrera, however, teaches **"copying the accessed source data file from the source storage system to the target storage system, only if the size of the accessed source data file does not exceed a predetermined limit"** as "The present invention also includes the ability to provide on-disk file memory allocation limits to limit the size of a file/stream. The present invention supports migration for such a

constraint...the present invention is a mechanism for enforcing the storage allocation limit" (Column 10, lines 30-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Cabrera's** would have allowed **Prahlad's** to provide a method for preventing lingering inefficiency associated systems that are not equipped to handle different types of storage and data transfer operations with maximum efficiency, as noted by **Cabrera** (Column 2, lines 22-35).

Regarding claim 74, **Prahlad** does not explicitly teach a method comprising:
A) wherein the processor is configured to: copy the accessed source data file from the source storage system to the target storage system, if the size of the accessed source data file does not exceed a predetermined limit.

Cabrera, however, teaches **"wherein the processor is configured to: copy the accessed source data file from the source storage system to the target storage system, if the size of the accessed source data file does not exceed a predetermined limit"** as "The present invention also includes the ability to provide on-disk file memory allocation limits to limit the size of a file/stream. The present invention supports migration for such a constraint...the present invention is a mechanism for enforcing the storage allocation limit" (Column 10, lines 30-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching **Cabrera's** would have allowed **Prahlad's** to provide a method for preventing lingering inefficiency associated systems that are not equipped to handle different types of storage and data transfer operations with maximum efficiency, as noted by **Cabrera** (Column 2, lines 22-35).

Regarding claim 78, **Prahlad** further teaches a method comprising:
A) retrieving the requested data from the copied data file stored in the target storage device, in accordance with the data processing request (Paragraph 35; and

B) providing the requested data to the host (Paragraph 35).

The examiner notes that **Prahlad** teaches **"retrieving the requested data from the copied data file stored in the target storage device, in accordance with the data processing request"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID, etc" (Paragraph 35) and **"providing the requested data to the host"** as "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc. Thus, if it was desired to access data that had been migrated to a tape, that data could be de-migrated from the tape back to RAID, etc" (Paragraph 35).

Response to Arguments

10. Applicant's arguments filed on 03/15/2007 have been fully considered but they are not persuasive.

Applicant goes on to argue on page 19, that **"Prahlad does not teach or suggest examining "a stub file <u>on the target storage device</u>," as required by claim 1, or a processor configured to do so, as required by amended claim 34"**. However, the examiner wishes to point to Paragraphs 21 and 49 of **Prahlad** which state "opening the stub file stored in place of the data by the NAS device at a first location,

the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further wishes to point to Paragraph 35 of **Prahlad** which states "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc" (Paragraph 35). The examiner further wishes to state that **Prahlad's** process of de-migration allows for the original data file to be migrated back to the NAS device at the first location where the stub file is located, and as a result, the first location (where the stub file is stored) is the target location, and the second location (where the original data file is de-migrated from) is the source location.

Applicant goes on to argue on page 19, that **"Prahlad also does not copy "the source data file from the source storage device to the target storage device," as claimed"**. However, the examiner wishes to point to Paragraph 35 of **Prahlad** which states "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc" (Paragraph 35). The examiner further wishes to state that **Prahlad's** process of de-migration allows for the original data file to be migrated back to the NAS device at the first location where the stub file is located, and as a result, the

first location (where the stub file is stored) is the target location, and the second location (where the original data file is de-migrated from) is the source location.

Applicant goes on to argue on page 20, that **"Claims 27 and 60 require copying a data file to "the target storage device (the device where the stub file is stored). For the reasons set forth above, neither Prahlad, nor any of the other cited art, teaches or suggests this feature"**. However, the examiner wishes to point to Paragraph 35 of **Prahlad** which states "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc" (Paragraph 35). The examiner further wishes to state that **Prahlad's** process of de-migration allows for the original data file to be migrated back to the NAS device at the first location where the stub file is located, and as a result, the first location (where the stub file is stored) is the target location, and the second location (where the original data file is de-migrated from) is the source location.

Applicant goes on to argue on page 21, that **"Prahlad fails to teach or suggest migrating a data file to the device where a corresponding "stub file" is stored, as claimed"**. However, the examiner wishes to point to Paragraph 35 of **Prahlad** which states "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc" (Paragraph 35). The examiner further wishes to state that

Prahlad's process of de-migration allows for the original data file to be migrated back to the NAS device at the first location where the stub file is located, and as a result, the first location (where the stub file is stored) is the target location, and the second location (where the original data file is de-migrated from) is the source location.

Applicant goes on to argue on pages 21-22, that **"Neither Prahlad nor Cabrera, individually, or in combination, teaches or suggests "examining a stub file stored on the target storage device" that contains "a pointer identifying a source data file," and "copying the source data file from the source storage device to the target storage device," as required by claim 11, or a processor configured to do so as required by amended claim 44"**. However, the examiner wishes to point to Paragraphs 21 and 49 of **Prahlad** which state "opening the stub file stored in place of the data by the NAS device at a first location, the first location...reading a pointer stored in the stub file" (Paragraph 21) and "read the stub file at step 402 and recognize that the data is now a stub file, and be automatically redirected to read the data from the location pointed to by the stub file" (Paragraph 49). The examiner further wishes to point to Paragraph 35 of **Prahlad** which states "De-migration as used herein generally refers to data retrieval-type operations and may occur when electronic data that has been previously transferred from a first location to a second location is transferred back or otherwise restored to the first location. For example, data stored on NAS 100 and migrated to in secondary storage and then returned to NAS 100 may be considered de-migrated. De-migration may also occur in other contexts, for example, when data is migrated from one tier of storage to another tier of storage (e.g., from RAID storage to tape storage) based on aging policies in an ILM context, etc" (Paragraph 35). The examiner further wishes to state that **Prahlad's** process of de-migration allows for the original data file to be migrated back to the NAS device at the first location where the stub file is located, and as a result, the first location (where the stub file is stored) is the target location, and the second location (where the original data file is de-migrated from) is the source location.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Article entitled "Data Migration Solution" by **Falconstor** on 23 January 2003. The subject matter disclosed therein is pertinent to that of claims 1-80 (e.g., methods for data migration using stub files with NAS devices).

U.S. Patent 5,564,037 issued to **Lam** on 08 October 1996. The subject matter disclosed therein is pertinent to that of claims 1-80 (e.g., methods for data migration using stub files with NAS devices).

U.S. Patent 5,991,753 issued to **Wilde** on 23 November 1999. The subject matter disclosed therein is pertinent to that of claims 1-80 (e.g., methods for data migration using stub files with NAS devices).

U.S. PGPUB 2005/0015409 issued to **Cheng et al.** on 20 January 2005. The subject matter disclosed therein is pertinent to that of claims 1-80 (e.g., methods for data migration using stub files with NAS devices).

U.S. Patent 7,103,740 issued to **Colgrove et al.** on 05 September 2006. The subject matter disclosed therein is pertinent to that of claims 1-80 (e.g., methods for data migration using stub files with NAS devices).

U.S. PGPUB 2005/0033800 issued to **Kavuri et al.** on 10 February 2005. The subject matter disclosed therein is pertinent to that of claims 1-80 (e.g., methods for data migration using stub files with NAS devices).

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mahesh Dwivedi whose telephone number is (571) 272-2731. The examiner can normally be reached on Monday to Friday 8:20 am – 4:40 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached (571) 272-3642. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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April 25, 2007
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